REMARKS

The Final Office Action mailed February 14, 2006, has been received and reviewed. Claims 1 through 46 are currently pending in the application. Claims 1 through 46 stand rejected. Applicants respectfully request reconsideration of the application with respect to the analysis presented herein.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent Application Publication No. 2004/0034514 A1 to Langemyr et al.

Claims 1 through 46 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Langemyr et al. (U.S. Patent Application Publication No. 2004/0034514 A1). Applicants respectfully traverse this rejection, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

First, Applicants note that the reference being used by the Office Action in the 35 U.S.C §120(e) rejection is a continuation-in-part (CIP) filed on January 9, 2002, which is based upon U.S. Patent Application No. 09/995,222 filed on November 27, 2001. The present application was filed on November 7, 2001. Therefore, new matter added to CIP publication No. 2004/0034514, relative to Application No. 09/995,222 is not available as prior art for a 35 U.S.C. § 102(e) rejection because the new matter can only claim a priority date to January 9, 2002, which is after the November 7, 2001 filing date of the present application. This new matter includes, in part, FIGS. 51-75 and the description within the specification of these figures.

Furthermore, Application No. 09/995,222 is a CIP of Application No. 09/675,778, filed on September 29, 2000, which claims priority to Provisional application No. 60/253,154, filed on November 27, 2000 and provisional application No. 60/222,394, filed on August 8, 2000. Therefore, new matter added to Application No. 09/995,222 relative to Application No.

09/675,778 is not available as prior art for a 35 U.S.C. § 102(e) rejection because the new matter can only claim a priority date to November 27, 2001, which is after the November 7, 2001 filing date of the present application.

Regarding claim 1, in rejecting claims 1, the Office Action states that, "Langemyr anticipates a method and system for performing finite element analysis to resolve a joint problem with feature limitations very identical to the claimed invention. According to Langemeyr the method includes steps . . . Providing the program input values and constraint data with joint criterion to the programs convergent analyses ([228]-[235]), And executing analysis programs for solving the coupled or joined problem."

Applicants respectfully disagree that the system for performing finite element analysis to resolve a joint problem in Langemyr discloses to the present invention as recited in claim 1." Furthermore, while the Office Action may have characterized the Langemyr reference, it does not characterize what is recited in claim 1. Namely, the acts of:

"executing the first finite analysis program to obtain first program output values including a first joint data set;

providing the second finite analysis program with second program input values including the first joint data set;

executing the second finite analysis program to provide second program output values including a second joint data set; and

providing the first finite analysis program with the first program input values including the second joint data set."

In other words, claim 1 includes, executing one program, providing data from that program, to a second program, executing the second program, and providing data from the second program back to the first program to close an iterative loop, as illustrated in FIG. 2 of the present application. As a result, each of the first and second programs, which may represent differing physical properties, may include its own iterative loop for solving a finite element problem. Furthermore, the links between the first and second program are in the form of data.

In contrast, Applicants believe that Langemyr describes forming a single "multiphysics model" wherein the single model is comprised of a combination of different "application

modes," then the single model is solved. As a result of this method in Langemyr, it appears that the "application modes" may represent different physical properties, but there appears to be one global loop for solving the single model comprised of equations for the different "application modes." Furthermore, it appears to Applicants that the links between "application modes are equations, rather than data.

In what Applicants believe is a particularly enlightening portion of the reference, illustrated by FIGS. 22 and 23, and generally described in the Langemyr specification in paragraphs 0212-0218]. Langemyr states that:

> "The foregoing description may be used in forming a multiphysics model and solving for selected variables. Steps of one embodiment may be summarized in the form of a flowchart and accompanying description.
>
> Referring now to FIG. 22 and FIG. 23, shown is an example of an embodiment of a flowchart of steps of one method for automatically specifying one or more systems of PDEs, **representing them in a single combined form**, and solving a system of PDEs. At step 210, a first application mode is selected. It should be noted that **each application mode corresponds to a particular system being modeled.** The selection of one or more application modes may be performed, for example, in one embodiment using the GUI 30 of the previously described FIG. 3. At step 212, a determination is made as to whether the processing steps formed by the loop at the top of step 212 are complete for all application modes. If a determination is made at step 212 that processing of all the applications modes selected at step 210, control proceeds to flow point A. Otherwise, control proceeds to step 214, where the physical properties associated as active with the current application mode are determined . . . The physical properties associated with an application mode may be selected, for example, in connection with GUI 60 of FIG. 4." (Paragraph 0212 and portions of paragraph 0213).

In other words, it appears to applicants that the loop in FIG. 22, between element 212 and 226, forms a loop of setting Partial Differential Equations (PDEs) for each of the application modes, prior to model execution.

Langemyr further states that:

> "When all the application modes are selected and done being processed in connection with the processing steps formed by the loop beginning with a decision at step 212, control proceeds to flow point A, step 230, **where PDEs for all the previously entered application modes are combined, forming a combined PDE system. In other words, the result is a single PDE system representing the combination of all the previously described systems in**

> **connection with all the previously specified application modes** . . . At step 231, an embodiment may optionally provide for modifying the combined PDE system, or other systems. Control proceeds to step 232, **where the PDEs, or variables associated with PDEs, may be solved.** An embodiment may provide variations as to what variables or PDEs may be solved for in the processing of step 232. One embodiment may allow the user to select solving for one of the PDEs associated with individual application modes, the combined PDE system, or variables from different PDEs. Control proceeds to step 234 where the processing of the flowchart 200 stops" (portions of paragraph 0218).

It appears to Applicants that if an iterative loop exists in Langemyr, it is represented by element 232 of FIG. 23 "where the PDEs, or variables associated with PDEs, may be solved." However, it appears to Applicants that this step represents execution of a model with all the PDEs combined. This differs significantly from the present invention, as recited in claim 1, wherein, each finite analysis program iterates to its own local solution and a global loop iterates across the finite analysis programs by sharing data between the finite analysis programs.

Thus, Langemyr et al. may disclose a system for performing finite element analysis to resolve a joint problem. However, Applicants assert that they resolve a joint problem in a significantly different manner from what is recited in claim 1. Namely, Applicants can find no disclosure in Langemyr of the steps of "**executing the first finite analysis program** to obtain first program output values including a first joint data set; **providing the second finite analysis program with second program input values including the first joint data set; executing the second finite analysis program** to provide second program output values including a second joint data set; and **providing the first finite analysis program with the first program input values including the second joint data set,**" as recited in claim 1. As a result Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claim 1 be withdrawn.

Regarding claims 2-15, these claims depend from now allowable claim 1. Therefore, at least by virtue of their dependency from an allowable claim, claims 2-15 are now allowable and Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claims 2-15 be withdrawn.

Regarding claim 16, this claim includes the elements of "a processor operably coupled to the storage medium for executing: the **first finite analysis program** to obtain first program output values including a first joint data set; the **second finite analysis program** to obtain second program output values including a second joint data set" and "wherein the storage medium is further configured for providing the second finite analysis program with the second program input values including the **first joint data set**; and wherein the storage medium is further configured for providing the first finite analysis program with the first program input values including the **second joint data set.**"

While stated somewhat differently, and in the form of a system, claim 16 includes elements very similar to claim 1. Namely, in summary, the separated first finite analysis program and second finite analysis program, and the linking data including the first and second joint data sets. Therefore, Applicants assert that the analysis presented above with respect to claim 1 is equally applicable to claim 16. As a result, Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claim 16 be withdrawn.

Regarding claims 17-29, these claims depend from now allowable claim 16. Therefore, at least by virtue of their dependency from an allowable claim, claims 17-29 are now allowable and Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claims 17-29 be withdrawn.

Regarding claim 30, this claim includes the elements of "**executing the first finite analysis program** acting upon first program input values, which include at least some of the user input, to provide first program output values including a first joint data set; **executing the second finite analysis program** acting upon second program input values, which include at least some of the user input and the **first joint data set**, to provide second program output values including a **second joint data set**; and providing the first finite analysis program with the first program input values including the second joint data set."

While stated somewhat differently, and in a computer readable form, claim 16 includes elements very similar to claim 1. Namely, in summary, the separated first finite analysis program

and second finite analysis program, and the linking data including the first and second joint data sets. Therefore, Applicants assert that the analysis presented above with respect to claim 1 is equally applicable to claim 30. As a result, Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claim 30 be withdrawn.

Regarding claims 31-40, these claims depend from now allowable claim 30. Therefore, at least by virtue of their dependency from an allowable claim, claims 31-40 are now allowable and Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claims 31-40 be withdrawn.

Regarding claim 41, this claim includes the elements of "executing the **first finite analysis program** acting upon first program input values to provide first program output values including a first joint data set; executing the **second finite analysis program** acting upon second program input values, which include the **first joint data set**, to provide second program output values including a **second joint data set**; and providing the first finite analysis program with the first program input values including the second joint data set"

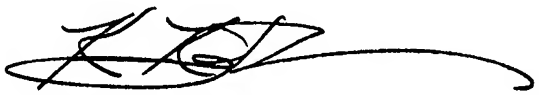
While stated somewhat differently, and in a computer readable form, claim 41 includes elements very similar to claim 1. Namely, in summary, the separated first finite analysis program and second finite analysis program, and the linking data including the first and second joint data sets. Therefore, Applicants assert that the analysis presented above with respect to claim 1 is equally applicable to claim 41. As a result, Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claim 41 be withdrawn.

Regarding claims 42-46, these claims depend from now allowable claim 41. Therefore, at least by virtue of their dependency from an allowable claim, claims 42-46 are now allowable and Applicants respectfully request that the 35 U.S.C. § 102(e) anticipation rejection of claims 42-46 be withdrawn.

CONCLUSION

Claims 1-46 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



Kevin K. Johanson
Registration No. 38,506
Attorney for Applicant(s)
TRASKBRITT
P.O. Box 2550
Salt Lake City, Utah 84110-2550
Telephone: 801-532-1922

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KKJ/ps:lmh
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